

## CLAIMS

1. Integrated biosensor and simulation system comprising:  
a sensor for sensing a biological target to generate a signal; and  
5 a simulator for using the signal and a model of the target to generate a therapeutic or diagnostic output.
2. The system of claim 1 wherein:  
the sensor is reconfigurable by the simulator.
- 10 3. The system of claim 1 wherein:  
the sensor senses a food material for consumption by the biological target to generate a second signal, the simulator further using the second signal to generate the therapeutic or diagnostic output.
- 15 4. The system of claim 1 wherein:  
the simulator generates the output according to a regulatory condition.
5. The system of claim 1 wherein:  
20 the sensor couples to the simulator via a programmable switch.
6. Automated sensor and simulation method comprising the steps of:  
sensing a biological target to generate a signal; and

simulating using the signal and a model of the target to generate a therapeutic or diagnostic output.

7. The method of claim 6 wherein:

5 a simulator for simulating reconfigures a sensor for sensing.

8. The method of claim 7 wherein:

the sensor senses a food material for consumption by the biological target to generate a second signal, the simulator further using the second signal to generate the  
10 therapeutic or diagnostic output.

9. The method of claim 7 wherein:

the simulator generates the output according to a regulatory condition.

15 10. The method of claim 7 wherein:

the sensor couples to the simulator via a programmable switch.